

Practice A

For use with pages 154-159

Describe each step used in solving the equation.

1. $9x - 4 = 7x + 8$

A. $2x - 4 = 8$

B. $2x = 12$

C. $x = 6$

2. $-4x + 9 = 2x + 3$

A. $-4x + 6 = 2x$

B. $6 = 6x$

C. $1 = x$

3. $4(2x - 9) = 4$

A. $8x - 36 = 4$

B. $8x = 40$

C. $x = 5$

Solve the equation and describe each step you use.

4. $2x = x + 9$

7. $7x = 5x + 24$

5. $4x - 6 = 3x$

8. $7x + 5 = 6x$

6. $-2x = -3x + 8$

9. $12x = 9x - 15$

Solve the equation if possible.

10. $2x + 5 = 3x$

13. $7x = 4x - 9$

16. $3(x - 1) = 3x - 3$

19. $8x - 3 = 19 + 5x$

11. $-2x = -4x + 20$

14. $-8x - 70 = 2x$

17. $2x + 3 = 4x + 5$

20. $\frac{1}{3}x = 7 - \frac{2}{3}x$

12. $7x - 20 = -3x$

15. $8x - 3 = 8x$

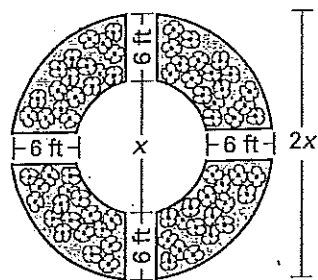
18. $-3x - 4 = 4x + 10$

21. $\frac{1}{4}x + 3 = \frac{-1}{4}x$

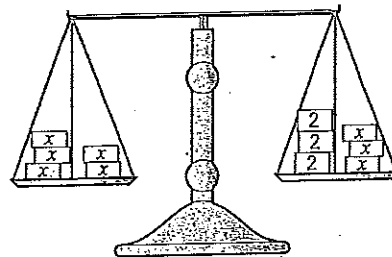
In Exercises 22-24, write and solve an equation to answer the question.

22. Dimensions of a Circular Flower Garden

A flower garden has the shape pictured below. The diameter of the outer circle is twice the diameter of the inner circle. The lengths of the walkways are each 6 feet long. What is the diameter of the inner circle?



23. Balanced Scale On one side of a scale there are 6 blocks, 3 weighing 2 grams each and 3 weighing x grams each. The scale is balanced if 5 blocks weighing x grams each are placed on the other side of the scale. How much does each of the unknown blocks weigh?



24. Distance-Rate-Time Two cars travel the same distance. The first car travels at a rate of 40 miles per hour and reaches its destination in t hours. The second car travels at a rate of 55 miles per hour and reaches its destination 3 hours earlier than the first car. How long does it take for the first car to reach its destination?

Rate of car 1	·	Time for car 1	=	Rate of car 2	·	Time for car 2
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Lesson 3.4

Practice B

For use with pages 154–159

Solve the equation and describe each step you use.

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|----------------------------|------------------------------------|----------------------------|
| 1. $2x = -x + 9$ | 2. $-4x - 6 = 3x + 1$ | 3. $5 - 2x = 3x + 8$ |
| 4. $4(10 - x) = -7(x - 1)$ | 5. $\frac{2}{3}(9x - 3) = -4 + 8x$ | 6. $-(18 + x) = 2(11 - 6)$ |

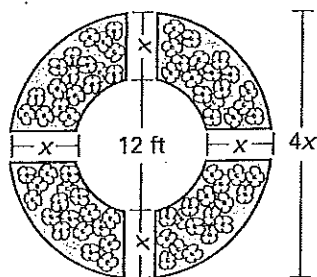
Solve the equation if possible.

- | | | |
|--|---------------------------------------|---|
| 7. $5x + 5 = 6x$ | 8. $-2x = -4x + 24$ | 9. $7x - 40 = -3x$ |
| 10. $7x = 4x - 15$ | 11. $-8x - 70 = 6x$ | 12. $8x - 9 = 8x$ |
| 13. $2(2x - 3) \div 4x - 6$ | 14. $-3 - (-4x) = -4x + 5$ | 15. $-(10 - x) = 3(x + 4)$ |
| 16. $8x - 4 = 19 + 5x$ | 17. $\frac{1}{5}x = 7 - \frac{4}{5}x$ | 18. $\frac{1}{4}x + 12 = \frac{-1}{4}x$ |
| 19. $\frac{1}{2}x - 8 = 14 + \frac{1}{2}x$ | 20. $\frac{1}{2}(2x - 6) = 2x$ | 21. $\frac{1}{3}(6x - 9) = 2x - 3$ |
| 22. $\frac{2}{3}(3x + 18) = 5x - 9$ | 23. $\frac{1}{4}(4 - x) = 10 + 2x$ | 24. $2(x - 1) = \frac{3}{5}(10 + 5)$ |

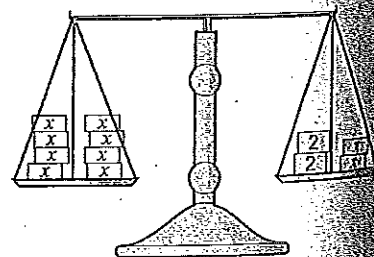
In Exercises 25–27, write and solve an equation to answer the question.

25. **Dimensions of a Circular Flower Garden**

A flower garden has the shape pictured below. The diameter of the inner circle is 12 feet. What are the lengths of the walkways?



26. **Balanced Scale** On one side of a scale there are 4 blocks, 2 weighing 2 grams and 2 weighing x grams each. The scale is balanced if 8 blocks weighing x grams are placed on the other side of the scale. How much does each of the unknown blocks weigh?



27. **Distance-Rate-Time** Two cars travel the same distance. The first car travels at a rate of 40 miles per hour and reaches its destination in t hours. The second car travels at a rate of 55 miles per hour and reaches its destination 3 hours earlier than the first car. How long does it take for the first car to reach its destination? How long does it take for the second car to reach its destination?

Rate of car 1	·	Time for car 1	=	Rate of car 2	·	Time for car 2
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28. **Extension** Write an equation that has no solution.
29. **Extension** Write an equation that is an identity.